REMARKS

Claims 1 and 4-7 are now pending in this application for which applicants seek reconsideration.

Amendment

Claim 2 and 3 have been canceled, claims 1 and 4-6 have been amended to improve their form and clarity, and new claim 7 has been added. Moreover, claim 3 has been incorporated into claim 1, while claim 5 has been placed in independent form. Claim 1 further has been revised to clarify that the sound-insulating wall and the wall of the suction muffler body are integrally formed. Moreover, the language "like letter U" in claim 6 has been changed to --a substantially U-shaped cross section--. No new matter has been introduced.

Drawing Objection

The examiner objected to the drawings because Figs. 6-9 are not labeled as "Prior Art." Applicants have appropriately revised Figs. 6-9 in the Preliminary Amendment.

Art Rejection

Claims 1-3 and 5 were rejected under 35 U.S.C. § 102(a) as anticipated by Lee (USP 6,446,454). Claim 4 was rejected under § 103(a) as unpatentable over Lee in view of Fagotti (USP 5,971,720) and Ono (USP 6,155,067). Lastly, claim 6 was rejected under § 103(a) as unpatentable over Lee in view of Myung (USPGP 2002/0090305). Applicants traverse these rejections because the combination would not have disclosed or taught at least the claimed muffler configuration.

Claims 1 and 5 each call for a muffler having a suction muffler body forming a sound-deadening space, a first communicating path communicating with a suction valve and with the sound-deadening space, and a second communicating path communicating with a hermetic container and with the sound-deadening space. The opening situated in the sound-deadening space of the first communicating path and the opening situated in the sound-deadening space, of the second communicating path open in a substantially identical direction.

Claim 1 further calls for the wall of the suction muffler body to be integrally formed with the sound-insulating wall at a place at least confronting both of the openings situated in the sound-deadening space. The sound-insulating wall and the wall of the suction muffler body form a blocked space. Claim 5 calls for the sound-insulating wall to function as a guiding wall

for guiding gas sucked from the second communication path to the first communication path smoothly.

First, it appears that the examiner has not fully appreciated the claimed limitation "a second communicating path communicating with the hermetic container and with the sound-deadening space." Indeed, Lee's second connection tube 25 communicates with a first chamber 24a and a second chamber 25a, neither of which is a hermetic container. Based on this distinction alone, applicants submit that Lee would not have anticipated independent claims 1 and 5.

Note that in Lee, because the second connection tube 25 does not directly communicate with the hermetic container, until the refrigerant in the hermetic container is guided into the second connection tube 25, problems can result, such as changes in expansion while flowing into the first chamber 24a from the inlet 22 or in the refrigerant flowing direction in the first chamber 24a. Moreover, the resistance to the refrigerant flow can increase due to vortex or compression while the refrigerant is guided into the second connection tube 25 from the first chamber 24a. As a result, the mass and flow rate of refrigerant guided into the compression chamber are lowered.

In contrast, in the claimed device, since one end of the second communication path (e.g.,146) opens to the hermetic container, the claimed device can be free of the problems (drop of mass and flow rate of refrigerant) occurring in Lee, and a higher efficiency can be obtained. Moreover, as the claimed device can be made to have a shorter refrigerant passage, the temperature rise of refrigerant in the passage can be suppressed, while the volume efficiency can be enhanced.

Second, in Lee, the vibration plate 42 is designed to vibrate or move in the same direction as the connection tube 25 and the refrigerant supply tube 26 by following the pulsation of the refrigerant. In this respect, relatively large gaps are present between the periphery of the vibration plate 42 and the walls of the suction muffler 200. Through such large gaps, noise and refrigerant pulsation in the second chamber 24b leak past the vibration plate 42. This substantially reduces the sound absorbing effectiveness.

In contrast, in claim 1, as the sound-insulating wall (e.g.,151) is formed integrally with the suction muffler body 141, there is no leakage and the blocked space (e.g., 150) formed thereby can greatly suppress noise. As the blocked space suppresses propagation of sound due to refrigerant pulsation, noise can be reduced more effectively in the claimed device in comparison

with Lee. Moreover, the sound-insulating wall enhances the strength of the suction muffler body to thereby further suppress vibration.

Third, in rejecting claim 6, the examiner relied upon Myung for the proposition that providing a U-shaped guide wall 131 in Lee would have been obvious. Although applicants disagree with the examiner's assessment of Lee and Myung, even if the combination were deemed proper for argument's sake, Myung would not have alleviated Lee's shortcomings because the combination at best would have provided a movable guide wall and not a static wall that is integrally formed with the wall of the muffler body. Accordingly, the combination would not have taught the claimed device set forth in claim 1.

As to independent claim 5, Myung's first compartment 131 and second compartment 132 are completely different from the claimed guiding wall structure (e.g.,152). Specifically, in Myung, the open ends in the extended space of the first passage pipe 110 and the second passage pipe 120 deliberately do not open in the same direction, and the open ends are not opposite to the guide wall 131. Therefore, in Myung, the guide wall 131 cannot shut off the pressure pulsation propagating in the reverse direction of flow of refrigerant from both ends of the first passage pipe 110 and the second passage pipe 120. In this respect, applicants submit that one of ordinary skill in the art would not have looked to Myung for improving Lee's device. Alternatively, the combination would have taught away from the claimed device at least to the extent that one of ordinary skill in the art would have reconfigured Lee's connection tubes 125, 126 according to the teachings of Myung. Indeed, maintaining Lee's same connection tube would not worked with Myung's guide wall 131.

In the claimed device, the open ends in the sound-deadening space (e.g., 143) of the first communication path and the second communication path open in the same direction, and the open ends are opposite to the guiding wall. Therefore, the pressure pulsation propagating in the reverse direction of flow of refrigerant flowing from the open ends in the sound-deadening space of the first communication path and the second communication path can be shut off by the guiding wall so that an outstanding results can be achieved.

Moreover, applicants submit that none of the applied references would have disclosed or taught a vertically-situated sound-insulating guiding wall that is substantially U-shaped in cross section, as is set forth in claim 6.

Applicants submit that the other applied references would not have alleviated the shortcomings of Lee and Myung as combined.

Conclusion

Applicants submit that claims 1 and 4-7 patentably distinguish over the applied references and are in condition for allowance. Should the examiner have any issues concerning this reply or any other outstanding issues remaining in this application, applicants urge the examiner to contact the undersigned to expedite prosecution.

Respectfully submitted,

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26 JULY 2007
DATE

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